

## REMARKS AND ARGUMENTS

This amendment is submitted in response to the Office Action mailed January 29, 2003. In view of the above claim amendments and the remarks that follow, reconsideration of the patentability of applicants' claims is requested respectfully.

### Status of the Claims

The Examiner's Action addresses claims 1, 2, 6, 8 to 12, and 22 to 41. Claims 3 to 5, 7, 13 to 21, and 42 have been cancelled, without prejudice, in a preliminary amendment. Claims 1, 2, 6, 8 to 12, and 22 to 41 are pending. Claims 1, 2, 6, 8 to 12, 22 to 25 and 28 to 41 have been rejected and claims 26 and 27 have been objected to on formal grounds. Claims 25 and 29 have been amended, claim 23 has been cancelled without prejudice, and no claims have been added. Accordingly, there is presented for the Examiner's consideration claims 1, 2, 6, 8 to 12, 22, and 24 to 41.

### Summary of Examiner's Rejections

Claims 1, 2, 6, 8 to 12, 21 to 25, and 28 to 41 have been rejected as indefinite under 35 U.S.C. §112, second paragraph. In claim 1, the Examiner has pointed out that the recited substructure of the compounds of the invention which corresponds to a pyrrolopyridine fused ring moiety is fully substituted, and therefore presents no point

of attachment to the remainder of the claimed structure and in addition is referenced inconsistently within the claim.

Additionally, claims 2, 6, 8 to 12, 21, 22, 24, 25, 28, and 30 to 41 have been rejected as being dependent upon rejected claims.

Claims 23 and 29 have been rejected as lacking antecedent basis in the claims from which they depend for terms used therein. Additionally, the Examiner has objected to claims 20 and 27 because they depend from a rejected base claim, and has stated that they would be allowable if rewritten to be independent claims incorporating the limitations of their respective base claims.

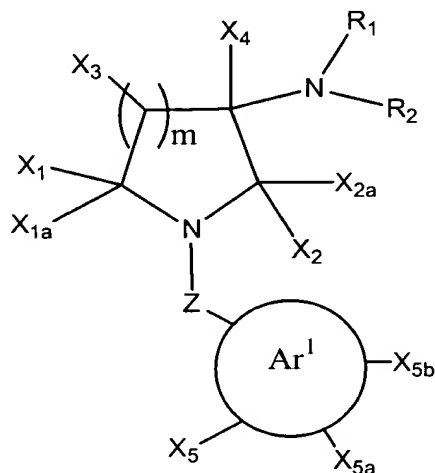
In claim 23, the Examiner considers the phrase "proximal ring" to lack antecedent basis because the term is not recited in base claim 1.

The Examiner has rejected claim 29, which depends from claim 1, because claim 1 defines compositions comprising an azaheterocyclamine portion bonded via an alkyl or substituted alkyl portion to a pyrrolopyridine-based portion but claim 29 defines both compounds having a pyrrolopyridine-based portion as well as a compound which has

in place of a pyrrolopyridine-based portion a pyrridine-based portion, and accordingly, claim 29 lacks antecedent basis in claim 1.

The Examiners rejections are respectfully traversed in view of the above claim amendments for the reasons set forth hereinafter.

Applicants' invention is directed to compounds and the therapeutic use thereof which comprise an azaheterocyclamine portion and bonded thereto, a monocycl or bicycloheteroaryl portion (designated  $Ar^1$ ), as summarized by Formula I



wherein X<sub>1</sub>, X<sub>1a</sub>, X<sub>2</sub>, X<sub>2a</sub>, X<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, X<sub>5a</sub>, X<sub>5b</sub>, R<sub>1</sub>, R<sub>2</sub>, Z, and "m" are as defined in claim 1, the bicycl- structure of "Ar<sup>1</sup>" is defined in claim 1 and the monocycl- structure

of "Ar<sup>1</sup>" is as defined in claim 29.

In the preliminary amendment filed with the application, errors in the definition of the bicyclheteroaryl portion of the compound based on a pyrrolopyridine structure were introduced, defining a fully substituted fragment which had no defined point of attachment to the remaining portion of the compound. Claim 1 has been amended to correct this error. This is to say that claim 1 has been amended to unambiguously recite a generic representation of applicants' compounds that include a portion having a pyrrolopyridine structure, wherein the "Z" moiety is bonded to a carbon atom in either the 5 or 6 membered ring of the pyrrolopyridine-based portion, which is to say, any carbon atom appearing in positions 1 to 7 of the pyrrolopyridine moiety. Additionally, claim 1 has been amended to include reference to the rings of the pyrrolopyridine moiety as being proximal and distal to the point of "Z" attachment. In addition, claim 1 has been amended to indicate that substituents, X<sub>5</sub>, X<sub>5a</sub>, and X<sub>5b</sub> may appear on any of the carbon atoms in the pyrrolopyridine structure other than the one to which the "Z" moiety is bonded, and when they appear in certain specific locations (on a carbon adjacent to the point of attachment of "Z" or on a carbon adjacent to the nitrogen heteroatom of the ring distal to "Z" attachment) they are selected from a subset of the substituents included in the definition of X<sub>5</sub>, X<sub>5a</sub> and X<sub>5b</sub>.

The amendments to claim 1 are supported by the specification on page 7, line 17 to 21, wherein the specification recites that a preferred structure for the portion of a compound of the invention represented by the "Ar<sup>1</sup>" formula is a bicycloheteroaryl structure based on a pyrrolopyridine moiety. Further support is found in the specification on page 22, lines 13 to 18, wherein the structure and position of X<sub>5</sub>, X<sub>5a</sub>, and X<sub>5b</sub> substituents on the ring carbons of bicycloheteroaryl structures represented by the "Ar<sup>1</sup>" formula are discussed. The amendments to claim 1 are also supported by original claim 23 (now cancelled), the limitations with regard to the definition of X<sub>5</sub>, X<sub>5a</sub>, and X<sub>5b</sub> substituents have been incorporated into claim 1.

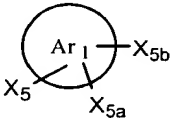
Claim 22 has been amended to unambiguously refer to the claimed pyrrolopyridine moiety defined in claim 1, as amended, and accordingly, now has proper antecedent basis in claim 1. Inclusion in claim 1 of the term "moiety" in reference to the "Ar<sup>1</sup>" portion of the claimed structure is supported in the original claim language of the specification, as filed, wherein claim 21 refers to the "Ar<sup>1</sup>" portion of the claimed compounds as a moiety. Claim 22, which originally depended from claim 21 recites the term "moiety" in reference to the "Ar<sup>1</sup>" structure as well.

The dependency of claim 24 has been amended to reflect that the limitations of

cancelled claim 23, which depended from claim 1, have been incorporated into claim 1.

Claim 29 has been amended to an independent form permitting inclusion of an

alkyl-aminopyridine moiety in the group of structures defining



therein.

The amendment to claim 29 is supported by the specification on pages 165 through 170 inclusive, which specifically describes the claimed structures and substituents, and is supported also by the language of claim 29 prior to the preliminary amendment which recites the all hydrogen-substituted azaoheterocycloxoamide moieties now defined by claim 29.

In view of the amendments to claims 1, 22, 24, 25, and 29, the Examiner's rejection of claims 1, 2, 6, 8 to 12, 21, 22, 24, 25 and 28 to 41 as indefinite under 35 U.S.C. §112, second paragraph have thus been overcome. Additionally, in view of the amendments to the claims, Examiner's rejection of claim 1 as being unclear regarding

Applicants: Yong Mi Choi-Sledeski et al.  
Application No. 09/918,039

the bonding pattern in the claim compound has been overcome, hence, Examiner's rejection of claims 2, 6, 8 to 12, 21, 22, 24 to 28, and 30 to 41 as being dependent upon a rejected claim has been overcome. In view of cancellation of claim 23, Examiner's rejections to claim 23 are moot.

Additionally, claim 1 has been amended to provide proper antecedent basis for claims 26 and 27, thus Examiner's objections to lack of antecedent basis for claims 26 and 27 have been overcome.

Accordingly, since all rejections and objections have been addressed, reconsideration by the Examiner of the rejections and allowance of these claims is therefore respectfully requested.

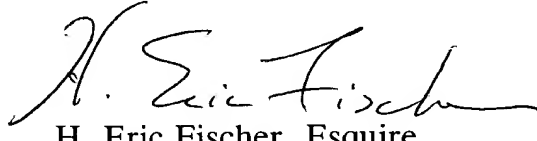
#### Miscellaneous

In view of the above claim amendments and remarks, this application is now in condition for allowance. Reconsideration is respectfully requested.

Applicants: Yong Mi Choi-Sledeski et al.  
Application No. 09/918,039

A request for a one month extension, from April 24, 2003 to May 24, 2003 of  
the time to reply to the Action of January 24, 2003 is submitted herewith.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "H. Eric Fischer".

H. Eric Fischer, Esquire  
Registration No. 46,010

Synnestvedt & Lechner LLP  
2600 Aramark Tower  
1101 Market Street  
Philadelphia, PA 19107  
Telephone: (215) 923-4466  
Facsimile: (215) 923-2189

M:\EFischer\Aventis\24,450 E US1\USPTO\V3 reply to OA of 1-24-03.wpd